ABSTRACT OF THE DISCLOSURE

The amount of dispersion compensation of a variable dispersion compensator that compensates for wavelength dispersion of an optical signal with waveform degradation caused by a characteristic of wavelength dispersion of an optical fiber is controlled by a controlling circuit based on bit-error information determined by a monitoring circuit so that the bit error rate is minimized. At initial setting, the bit error rate is determined by sweeping across a variable range of the amount of dispersion compensation of the variable dispersion compensator, and the amount of dispersion compensation is set as the initial value at the minimum value of the bit error rate, or at center value in a range of the amount of dispersion compensation when the bit error rate becomes lower than a preset threshold. The sweeping across the range of the amount of dispersion compensation where detection of synchronization cannot be performed is skipped.